

Orientation for BSN-to-DNP Clinical Preceptors

Rebecca A. Owens

College of Nursing, East Carolina University

Doctor of Nursing Practice Program

Dr. Janet Tillman

July 18, 2021

Notes from the Author

This project would not have been possible without my ECU project faculty: Dr. Michelle Skipper, Dr. Janet Tillman, and Dr. Tomika Williams. Their enduring guidance, compassion, and support throughout this process embodies the essence of the nursing profession. They have inspired me to become the provider and educator I want to see in the world.

This project is dedicated to my husband Jay; to Gizmo the Wonderpup; to my brothers Eric, Michael, and James; and to all of my colleagues and co-workers who have encouraged me along the way. Your love and support throughout this journey have sustained me in times of uncertainty and strife. Thank you for your love and understanding along the way. I hope to make you proud.

Abstract

To support preceptor retention and recruitment efforts, a college of nursing in North Carolina desired to implement a formal orientation for clinical preceptors within a Bachelor of Science in Nursing (BSN) to Doctor of Practice in Nursing (DNP) program. An online orientation training module was constructed as a DNP project. The training module was distributed via email to the program's clinical preceptors (N = 137). During the project's implementation 12-week implementation period (February 23, 2021 through May 18, 2021), an application was submitted to associate module completion with continuing education credit.

The self-paced module addressed: program and course-specific information; expectations of students, preceptors, and faculty; and strategies for providing structured student feedback (via the "One Minute Preceptor" and "Feedback Sandwich" methods). Interactive components of the module included: a pre-module demographics survey/training methods preference assessment, a post-module feedback survey, and a post-module knowledge check.

Approximately 90% of respondents indicated satisfaction with the training module and 75% of respondents indicated a strong preference for online training. The module received approval for one hour of continuing education credit after the implementation closed. Future participants will be eligible to receive one hour of continuing education credit from August 2021 through August of 2023.

Project limitations included a low response rate overall (14.5%) and restrictions resulting from the Coronavirus pandemic. Continuing education credit was not offered during the study's implementation which may have increased participation. This project highlights the ongoing need to support clinical preceptors to support growth of nurse practitioners in the healthcare workforce.

Keywords: clinical preceptor training, clinical preceptor orientation, BSN-to-DNP clinical preceptor orientation, web-based preceptor training

Table of Contents

Notes from the Author..... 2

Abstract 3

Section I: Introduction 5

 Background.....5

 Organizational Needs Statement.....6

 Problem Statement.....7

 Purpose Statement.....7

Section II: Evidence.....8

 Literature Review.....8

 Evidence-Based Practice Framework.....10

 Ethical Consideration and Protection of Human Subjects.....10

Section III: Project Design.....12

 Project Site and Population.....12

 Project Team.....13

 Project Goals and Outcomes Measures.....13

 Implementation Plan.....14

 Timeline.....15

Section IV: Results and Findings.....16

 Results.....16

 Discussion of Major Findings.....17

Section V: Interpretation and Implications.....18

 Costs and Resource Management.....18

 Implications of the Findings.....18

 Sustainability20

 Dissemination Plan20

Section VI: Conclusion.....21

 Limitations and Facilitators.....21

 Recommendations for Others.....21

 Recommendations for Further Study.....22

Final Thoughts.....22

References.....23

Appendices

 Appendix A: DNP Essentials Assessment.....26

 Appendix B: Project Budget.....28

 Appendix C: Abbreviated Literature Matrix.....29

 Appendix D: PDSA Models.....34

 Appendix E: Project Timeline.....36

Section I. Introduction

Background

Bachelor of Science in Nursing (BSN) to Doctor of Nursing Practice (DNP) Programs prepare registered nurses (RNs) with an earned BSN to become leaders in nursing education, healthcare administration, and in clinical settings (Krippaehne, 2021). Programs that enable participants to pursue certification as a nurse practitioner (NP) require completion of rigorous didactic and clinical competency requirements, the latter of which involves working with community-based clinical preceptors. The American Association of Colleges of Nursing (AACN, 2019) describes clinical preceptors as healthcare providers (physicians, physician assistants, and NPs) who provide formal and informal feedback, role model evidence-based care, and support and guide nurse practitioners training in the clinical setting.

While clinical preceptors are indispensable partners in preparing DNP students for clinical practice, a dearth of NP preceptors stymies growth within NP training programs. Furthermore, the National Task Force of Quality Nurse Practitioner Education (2016) identified a lack of standardization of guidelines and training for clinical preceptors as a barrier for growth within NP programs. Though many factors may impact a health care provider's decision to serve as a preceptor, onboarding and training may reduce attrition and increase retention of clinical preceptors (Schumaker & Risco, 2017).

Organizational Needs Statement

A BSN-to-DNP program based in a public university in eastern North Carolina struggled to retrain and recruit clinical preceptors for NP students. Preceptors were needed for a variety of specialty tracks, including Family Nurse Practitioner (FNP), Adult-Gerontology Primary Care Nurse Practitioner (AGPCNP), and Nurse Anesthesia. (Note: The Nurse Anesthesia concentration was in the process of being incorporated during the development/implementation of this DNP project). While preceptors are vetted via rigorous standardized practices, the program lacked a structured orientation program for clinical preceptors.

Of the 180,000 licensed NPs in the United States, less than 1% serve North Carolina residents (United States Bureau of Labor Statistics, 2019). Healthy People 2020 emphasizes the need to increase

the total number of health care providers in the workforce, including NPs (Office of Disease Prevention and Health Promotion, 2020). While the total number of NP training programs in the United States has increased in the last five years, admission capacity of NP programs and on-time program completion is negatively impacted by an insufficient amount of qualified clinical preceptors (American Association of Nurse Practitioners, 2020). Thus, clinical preceptor retention supports growth within the NP workforce (within North Carolina and beyond) by allowing more qualified individuals to complete NP training.

Problem Statement

A BSN-to-DNP program in eastern North Carolina struggled with insufficient supply of clinical preceptors to meet the needs of NP students matriculating through their program. The program did not possess a structured orientation program for clinical preceptors. Without structured onboarding, preceptors were not always aware of student requirements, preceptor responsibilities, or how best to communicate with college of nursing faculty.

Purpose Statement

The purpose of this DNP project was to create and implement a structured, evidence-based clinical preceptor orientation program for a BSN-to-DNP program in eastern North Carolina.

Section II. Evidence

Literature Review

A literature review was conducted to identify existing information regarding onboarding for NP clinical preceptors. The search was limited to scholarly, peer-reviewed articles available in English and in the full-text format. Databases utilized included CINAHL and EBSCOhost via East Carolina University online library services. "Nurse practitioner preceptor orientation" served as the core search phrase. This phrase was modified to create 23 distinct permutations of the search phrase using the following modifications in various arrangements: replacing "NP" with "nurse practitioner"; substituting "onboarding" and "training" for "orientation"; adding "student" to the beginning of the phrase and/or adding "clinical" before preceptor; and placing quotations around key terms. Article abstracts were reviewed to determine relevance; relevant articles were reviewed in detail to determine inclusion eligibility. In total, 448 articles were returned (excluding duplicates) and 19 relevant articles were considered. After applying inclusion/exclusion criteria, 13 articles remained. Studies were included (regardless of evidence level) if conducted/published in the United States in 2015 or later and if best practice methods for onboarding/orienting NP preceptors the Master of Science in Nursing (MSN) or DNP level was addressed.

Articles/studies were omitted from the review when any of the following exclusion criteria were present: studies published prior to 2015; studies conducted outside of the United States; articles addressing preparation of undergraduate nurse (RN) preceptors or on-the-job orientation of new-graduate NPs; studies that only addressed orientation of NP students and not orientation of preceptors; and/or articles addressing advanced practice nursing disciplines other than NPs (i.e. nurse midwifery). (See Appendix C).

Current State of Knowledge

A review of the literature associated with this project emphasized the need for continued research in this area. Despite the specificity of the search terms, most of the returned content applied to undergraduate nursing only. The dearth of studies dedicated to BSN-to-DNP preceptors further highlights

the need for additional research in this area. Most studies acknowledged the deficit in existing literature related to this topic.

Current Approaches to Solving Problem

The review of literature did not provide a specific idea regarding best practices in preparing NP preceptors. However, a few key themes were evident from studies and articles pertaining to optimizing preceptor preparedness, satisfaction, and retention. The need for formal preparation for NP preceptors was illustrated in studies by Schumacher & Risco (2017), Chen et al. (2016), and Pitcher (2016). Each of these studies demonstrated how knowledge gaps and perceived preparedness deficits could be ameliorated with structured preceptor onboarding of NP clinical preceptors. The presence of clear communication between NP programs and clinical preceptors as a necessary component of preceptor preparedness, satisfaction, and retention was highlighted in several studies. (Billay et al., 2015; Knisley et al., 2015; Roberts et al., 2017; Schumacher & Risco, 2017).

Evidence to Support the Intervention

In addition to clearly establishing expectations of preceptors, the impetus of meaningful, structured preceptor feedback regarding student performance was clearly emphasized in several articles (Knisely et al., 2015; Wilkinson et al., 2015). In addition to increasing perceived level of preparedness, preceptor satisfaction and preceptor retention were shown to be positively associated with certain incentives, such as offering continuing education credits, library access, and other perks (Amirehsani et al., 2019; Clark et al., 2018; Roberts et al., 2017). Finally, multiple studies demonstrated a strong preference among preceptors for web/technology-based onboarding offerings (Heusinkvelt & 2020; McNeil & Jakubisin Konicki, 2021).

Evidence-Based Practice Framework

Identification of the Framework

The Consolidated Framework for Implementation Research (CFIR) model was utilized to guide development and implementation of this project (Damschroder et al., 2009). This framework was developed to “guide systematic evaluation of multilevel implementation contexts and to identify factors

that might influence intervention implementation and effectiveness” (Keith et al., 2015, p. 15). The model takes into account the characteristics of an intervention, inner and outer settings in the context of the intervention settings, individuals involved, and the complexity of the implementation process itself (Damschroder et al., 2009).

Intervention characteristics address an intervention's source, strength of evidence, adaptability, and complexity. The inner setting focuses on the structural characteristics of the implementation climate while the outer setting looks at external factors which could impact outcomes. Examining individuals involved requires addressing all parties involved in the process, including preceptors, potential students, program faculty.

The implementation process is separated into four steps: planning, engaging, executing, reflecting/evaluating. After the intervention is fully developed during the planning phase, engagement then occurs with participant recruitment. This is followed by the execution phase wherein the true implementation of the project takes place (i.e. when DNP clinical preceptors complete training modules and provide feedback as requested). During the evaluation and reflection stages, feedback information and other data will be analyzed to determine efficacy of training modules and next steps (Damschroder et al., 2009). The “Plan, Do, Study, Act” (PDSA) model was also applied to guide development and implementation of this project (see Appendix D).

Ethical Consideration & Protection of Human Subjects

This education-focused project does not carry any implicit concerns related to the need for protection of human subjects. There are no identifiable risks for any persons involved. Although the training module is intended to be web-based, a hard-copy can be made available to support fairness of distribution and to mitigate the potential for web-based/connectivity issues. Upon implementation, training will be available to all participants located at the project site or will be made freely available if the design involves a voluntary enrollment process.

To prepare for the formal approval process, the project author completed modules outlined by the Collaborative Institutional Training Initiative (CITI) modules associated with Human Research indicated

for all investigators and key personnel. The project was processed through an institutional review board and deemed exempt. No ethical considerations or concerns were identified, and no additional review was required.

Section III. Project Design

Project Site and Population

The site for this DNP project is a BSN-to-DNP program within a university in eastern North Carolina. The population includes healthcare providers serving as clinical preceptors for NP students within the BSN-to-DNP program. The goal of this project is to provide formal orientation for preceptors with the intent to improve experiences for preceptors and students.

During project development, low response rate was anticipated as a potential significant barrier. Potential contributing factors included the optional nature of the training, time constraints related to the dual role of serving as both a healthcare provider and as a clinical preceptor, and the consideration that participants may review the training information but not provider any survey response data. Conversely, a close working relationship between the project manager, project site champion, and DNP course faculty facilitated project development and implementation. The remote aspect of implementation was also an advantage as the Coronavirus pandemic eliminated the possibility of completing in-person education sessions for preceptor onboarding. Although the internet-based distribution can be interpreted as a project facilitator, the potential for limited internet access or software issues was also anticipated as a potential barrier to implementation of the project.

Description of the Setting

The BSN-to-DNP program is accredited by the Commission of Collegiate Nursing Education. The college of nursing's graduate program utilizes the talent and expertise of sixteen full-and-part time faculty members. Graduate students enrolled in the program's online BSN-to-DNP concentrations are paired with community-based clinical preceptors throughout North Carolina. These preceptors work in a variety of health care delivery settings including primary or specialty care offices, hospitals, clinics, urgent care centers, and other practice areas.

Description of the Population

Physicians, physician assistants, and nurse practitioners serve as clinical preceptors for BSN-to-DNP students. Demographic information will be collected from project participants (years of experience,

clinical specialty, degrees/certifications held, etc.) in the form of a questionnaire at the beginning of the module. This demographic information will be utilized to contextually examine project data. Participants may or may not have experience serving as a preceptor for BSN-to-DNP students.

Project Team

The project team consisted of the project manager, a project mentor, and a project site champion. Dr. Jan Tillman DNP, MSN, RN, FNP-BC served as project mentor. Dr. Michelle Skipper DNP, FNP-BC, FAANP served as site champion. Dr. Tomika Williams PhD, AGNP-C, CDP, RN also served as DNP faculty during implementation of this project.

Project Goals and Outcome Measures

The goal of this project was to create an online orientation program for BSN-to-DNP clinical preceptors. The outcome measure for this project will be total number of orientation participants. The project was deemed exempt from requiring IRB approval. All data was collected via Qualtrics software and stored/computed via Excel spreadsheets.

Description of the Methods and Measurement

The training module was created with free online software. The software allows unlimited distribution of the website/training module. In addition to informative content, a pre-module survey, a post-module survey and a knowledge check were also created with Qualtrics survey software. Links to the surveys were embedded in the module. A link was also provided for participants to complete a Qualtrics form to request a certificate of completion.

Information gleaned from the review of literature was utilized to design the module for maximum efficacy. The self-paced module addressed: program and course-specific information; expectations of students, preceptors, and faculty; COVID-19 specific information for students; clinical competency requirements; an explanation of structured feedback required by the school of nursing; benefits of precepting and “preceptor perks” (including access to the university/project site’s library services); and strategies for providing structured student feedback (via “The One Minute Preceptor” and “Feedback Sandwich” methods).

Information requested in the pre-module survey included: professional designation, years of clinical experience, length of experience working with BSN-to-DNP students, previous exposure to clinical preceptor training, and preferences related to delivery/distribution of clinical preceptor training (online, in-person, etc.). The post-module survey asked participants to rate their overall satisfaction with the module and to rate how well the module met certain objectives. A free-text option was offered for participants to provide any additional feedback. Participants were also asked to describe how/if the training may impact their precepting strategies.

The knowledge check included five, knowledge-based questions based on content found within the module. Participants were informed that participation at any capacity (module review, survey participations, knowledge check, etc.) was completely voluntary. The website software did not provide the ability to track site traffic; therefore, survey responses are the only available metrics in terms of participation.

Discussion of the Data Collection Process

Responses to the Qualtrics survey were reviewed daily and recorded in Excel spreadsheets. Responses were tracked via a master response tracking spreadsheet tool. Certificate requests were also addressed every weekday during the implementation period. No significant changes were made to the module during the implementation period (based on survey feedback or otherwise).

Implementation Plan

A welcome letter including a link to the orientation modules was emailed to all BSN-to-DNP clinical preceptors (N = 137) on February 23, 2021. Preceptors were asked to complete the training no later than May 18, 2021. A reminder email was sent out during the first week of April 2021. No updates were required to the modules in terms of accuracy or clarity during the implementation period. The project manager communicated with the site champion at least weekly via telephone or email. PDSA models were reviewed every one-to-two weeks to

Review of the literature indicated that continuing education credit may serve as an impetus for clinical preceptor participation. As such, an application was submitted to a major nursing organization to

associate module completion with continuing education credit. The application was submitted after several participants had completed the module to allow the application to include information about the pilot rollout of the training.

The application was approved in May of 2021 for one hour of continuing education credit. The accreditation period last two years and begins August 2021. Although this benefit was unable to be offered during the implementation period, the module and continuing education credit will be available for future use by the project site.

Timeline

This DNP project was approved in October 2020. Module construction was completed in December 2020 and the modules were emailed to participants on February 23, 2021. Communication between the project manager and site champion occurred at least weekly throughout the implementation period. Survey response data and general feedback were reviewed and recorded every weekday. The implementation cycle ended on May 18, 2021. The application for continuing education accreditation was submitted in April 2021 and was approved in May 2021 after the implementation period (see Appendix E).

Section IV. Results and Findings

Results

A total of 20 participants completed the pre-module (demographics/training preferences) survey and the post-module survey was completed by 19 participants. The knowledge check was completed by 11 participants with 100% accuracy. A total of 13 participants requested a post-module completion certificates, including one MD, four DNPs, and 8 NPs.

Participant Demographics

A total of 20 participants completed the pre-module survey, including one MD and 19 NPs. Among the NPs that completed the survey, 10 self-identified as MSN-prepared, eight were DNP-prepared, and one respondent indicated that their DNP was in progress. Zero respondents indicated that they were DOs or PAs.

A quarter of respondents (N=5) indicated one-to-three years of experience as a healthcare provider, 20% (N=4) reported four-to-seven years, and 55% (N=11) reported more than seven years of experience. A quarter of respondents indicated Spring 2021 was their first semester serving as a preceptor for ECU's BSN-to-DNP students. 50% reported a precepting history of one-to-three students, and 25% reported precepting between four and seven students.

Preceptor Training Preferences

Among participants who had previously served as clinical preceptors for any NP program, 60% (n=12) indicated that formal preceptor training was never offered. Regarding distribution of training materials and training availability, 85% of respondents preferred email distribution of training materials as well as a preference for self-paced/remote training. Conversely, three respondents indicated a preference for in-person training, and two respondents stated they would prefer training materials to be mailed directly to them. 90% of respondents indicated a preference for optional training as opposed to compulsory preparation. 95% of respondents indicated that they would be more likely to participate in clinical preceptor training if continuing education credits were offered.

Post-Module Survey

Among the 19 participants who completed the post-module survey, 90% (n=17) that they were satisfied or very satisfied with the training. 42% indicated that the modules enhanced their knowledge of precepting strategies and that the training was relevant to their needs. Two respondents indicated that they were neither satisfied nor dissatisfied with the training, but these respondents also indicated (via free text response) that they were experienced preceptors and felt the training may be useful for individuals new to precepting. Two respondents indicated that they were unaware the preceptors had access to the university's library services but they had learned this information within the module.

Discussion of Major Findings

Despite the low response rate, the feedback for the training module was overwhelmingly positive. Participants who self-identified as "experienced preceptors" found the module less helpful but still indicated an appreciation for the review of topics. Several respondents stated they were pleasantly surprised to learn that they had access to ECU's library services and that they did not know this information prior to completion of the module. Finally, a majority of participants indicated that a web-based delivery format was preferable and that offering continuing education credits may encourage participation in preceptor onboarding. These findings echo findings from the review of literature that indicated a preference for online delivery.

Section V. Interpretation and Implications

Costs and Resource Management

Online freeware was utilized to create and host the education module. Distribution of the content was also free (via email). Qualtrics survey software was provided by the project site via technology and maintenance fees incorporated in student tuition; this is more-or-less a sunk cost in the context of the project. Contract-based content creators could charge thousands of dollars for this service, regardless of the cost of software.

The only actual cost associated with the project (\$150) was the processing fee for the continuing education accreditation application. If the continuing education hours are approved, the cost of annual renewal will remain \$150 every two years. This cost is justified by the potential for preceptor retention and recruitment associated with offering continuing education credits with preceptor training (see Appendix B).

Nurse practitioners are valuable members of the healthcare team. Efforts to enrich clinical preceptors also enrich the experience of future NPs. Safe, effective training for NPs produces safe and effective healthcare providers, thus reducing the cost of healthcare on a larger scale as it relates to future NP retention or errors in clinical practice errors.

An incidental by-product of this project was the creation of a preceptor newsletter (see the section on sustainability for additional information). This will tentatively be maintained by future students. The utilization of free student labor further offsets potential costs associated with preceptor support and engagement efforts.

Implications of the Findings

The key contributor to preceptor attrition is also the most likely cause of the low response rate of this project: preceptors are busy and wear multiple hats as healthcare providers. Although respondents indicated that precepting was a rewarding experience that resulted in learning opportunities for preceptors and students alike, more thorough investigation into precepting barriers is warranted. As previously

posited, supporting clinical preceptors and incentivizing precepting with continuing education credit may promote retention.

The Coronavirus pandemic also contributed to the low response rate. In addition to existing demands, the pandemic has increased the workloads and concerns of providers in all clinical settings. The notion that “one more thing” (i.e. the project training module) may just be one thing too many is perfectly acceptable in the context of the implementation period. Although the training was designed to be streamlined and informative, it was also 100% voluntary and only intended to support preceptor’s efforts and efficacy.

Implications for Patients, Nursing Practice, and the Healthcare System

Preceptor retention would boost total enrollment in NP programs, thus enabling more students to become health care providers to serve the needs of patients in North Carolina. Furthermore, guidance provided by well-prepared clinical preceptors enables NP students to rise to the challenges presented by an ever-changing healthcare climate. Preceptors must be supported and as an integral and invaluable component of promoting quality health care.

Although preceptor incentives are largely influenced by the ability of a healthcare system or an academic institution to provide them, it may be beneficial for academic or healthcare institutions to expand “preceptor perks” to attract healthcare providers to the preceptor role. Project participants expressed delight with the knowledge that access to the university’s library services would be extended to preceptors. This information was completely novel for at least two participants. This highlights the need to not only create valid incentives for preceptors but to also ensure that preceptors are aware that those benefits exist.

This project’s participants indicated a strong preference for online training. This information was consistent with existing literature. This emphasizes that healthcare delivery sites and academic institutions should make best efforts to make training available remotely and provide self-paced options for completing training.

Sustainability

The project is sustainable as the training modules are free to maintain, update, and distribute. The software used to create, host, and distribute the module is easy to use and does not require special training or certifications. Should continuing education credit be awarded, the annual cost of maintaining this incentive is \$150 annually.

The module will need to be updated regularly based on changes to the program or COVID-19 requirements. A future addendum may be required to address information specific to the Nurse Anesthesia program which was being incorporated to the DNP pathways at this project was being constructed.

As mentioned in the cost-benefit analysis, a preceptor newsletter was established as a supplemental aspect of this project. The first edition was created and distributed in April of 2021 and included information about this project, additional information about library access for preceptors, and a general feedback form. This newsletter will be utilized in future semesters to promote clinical preceptor engagement and to provide additional/real-time program updates.

Dissemination Plan

This project will be submitted to the project site's university DNP project repository. Other potential dissemination avenues include submissions to: The Journal of Nursing Education, The Journal of Nurse Practitioners, the Journal of Doctoral Nursing Practice, and/or the Journal of Continuing Education in Nursing. The project may also be submitted for presentation at the North Carolina Nurse Association symposium in 2022.

Section VI. Conclusion

Limitations and Facilitators

The key limitation of this study proved to be low response rate (<15%), A reminder email was sent a month prior to the close of implementation which did produce an additional 6 responses.

Regrettably, the hosting software does not provide metrics on website engagement (i.e. site traffic etc.) which could provide context for the number of preceptors who may have reviewed the module but chose not to complete the surveys or did not request a completion certificate.

Stress related to the Coronavirus pandemic contributed to a low project participation rate. This crisis has increased workload demands placed on healthcare providers at all levels. Additionally, healthcare institutions have increased provider Coronavirus restrictions also prevented the ability of the project manager to engage in personal outreach efforts to promote project participation (i.e. site visits to institutions with high numbers of clinical preceptors were not possible due to the pandemic).

The project was facilitated by a close working relationship with members of the project team and DNP faculty. The software utilized to create the training module/website was free and easy to operate. Qualtrics training was included in a DNP Statistics course within the program which facilitated ease of use during the design, implementation, and data analysis portions of the project.

Recommendations for Others

This project may have benefited from having continuing education associated with the modules when implementation began. Replication may render better participation rates if this is offered at the outset rather than as a future/potential perk. While “pilot data” is useful to include with an application for continuing education accreditation, future replication attempts could receive permission to conduct a pre-rollout trial on a small number of willing participants to gather information to use for the continuing education application.

Although the inclusion of continuing education credit could prove to be a powerful tool for preceptor recruitment and retention, these applications do carry an associated cost. Grants could offset the annual cost of continuing education accreditation if funding is not yet allocated for such an investment.

Additional funding could also be allocated to collaborate with a dedicated nurse planner to produce more innovative, interactive training content for preceptors.

The free software utilized for the module did not allow content creators to track website interaction metrics. Comparable software may be close-to-free and would provide such information for detailed interpretation regarding participation or module engagement (i.e. time spent on particular pages, navigation attempts for survey links/knowledge checks, etc.). Such costs could be covered by grants or relocation of program funds if these types of metrics are desired.

Recommendations for Further Study

The concept of preceptor preparedness has not been examined in detail in existing literature or within this project. While standardized orientation is designed to bring participants up to speed on an individual program's requirements, it may be important to address the meaning of preparedness as it is defined by clinical preceptors themselves. Tools and information deemed essential to an institution may differ from those desired by clinical preceptors who will be serving within that role.

Future study should be dedicated to support NP preceptors at all levels (MSN, DNP, etc.). To support clinical preceptor recruitment efforts, future research should also continue to address desired incentives for clinical preceptors. Retention efforts could be supported by research desired methods of engagement and communication among existing preceptors as well as dedicating efforts towards understanding causes of preceptor attrition.

Final Thoughts

The goal of this project was to provide ECU's BSN-to-DNP program with a training module for clinical preceptors. That module now exists and was reviewed by at least 20 clinical preceptors from February 23 to May 18, 2021. Although the response rate was low, feedback regarding the training module was overwhelmingly positive in that the content provided was well intentioned and informative. The findings from this project emphasize concepts already known to nursing academia: Innovative strategies must be utilized to recruit, retain, and support qualified NP preceptors.

References

- American Association of Colleges of Nursing [AACN]. (2019). *APRN clinical preceptor resources guide*. Retrieved from <https://www.aacnnursing.org/Education-Resources/APRN-Education/APRN-Clinical-Preceptor-Resources-Guide>
- American Association of Nurse Practitioners [AANP]. (2020). *Planning your NP education*. Retrieved from <https://www.aanp.org/student-resources/planning-your-np-education>
- Amirehsani, K. A., Kennedy-Malone, L., & Alam, M. T. (2019). Supporting preceptors and strengthening academic-practice partnerships: Preceptors' perceptions. *Journal for Nurse Practitioners, 15*(8), e151-e156. <https://doi.org/10.1016/j.nurpra.2019.04.011>
- Billay, D., Myrick, F., & Yonge, O. (2015). Preceptorship and the nurse practitioner student: Navigating the liminal space. *Journal of Nursing Education, 54*(8), 430-437. doi:10.3928/01484834-20150717-02
- Chen, A. K., Rivera, J., Rotter, N., Green, E., & Kools, S. (2016). Interprofessional education in the clinical setting: A qualitative look at the preceptor's perspective in training advanced practice nursing students. *Nurse Education in Practice, 21*, 29-36. <https://doi.org/10.1016/j.nepr.2016.09.006>
- Clark, C. A., Kent, K. A., & Riesner, S. A. (2018). A new approach for solving an old problem in nurse practitioner clinical education. *Journal for Nurse Practitioners, 14*(4), e69-e75. <https://doi.org/10.1016/j.nurpra.2018.01.012>
- Damschroder, L., Aron, D.C., Keith, R.E., Kirsh, S.R., Alexander, J.A., & Lowery, J.C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science, 4*(50). doi:10.1186/1748-5908-4-5
- Heusinkvelt, S. E., & Tracy, M. (2020). Improving nurse practitioner and physician assistant preceptor knowledge, self-efficacy, and willingness in a hospital medicine practice: An online

- experience. *The Journal of Continuing Education in Nursing*, 51(6), 275-279. <https://doi.org/10.3928/00220124-20200514-07>
- Keith, R. E., Crosson, J. C., O'Malley, A. S., Cromp, D., & Taylor, E. F. (2017). Using the consolidated framework for implementation research (CFIR) to produce actionable findings: A rapid-cycle evaluation approach to improving implementation. *Implementation Science: IS*, 12(1), 15. doi:10.1186/s13012-017-0550-7
- Knisely, M. R., Fulton, J. S., & Friesth, B. M. (2015). Perceived importance of teaching characteristics in clinical nurse specialist preceptors. *Journal of Professional Nursing*, 31(3), 208-214. doi:10.1016/j.profnurs.2014.10.006
- Krippaehne, A. (2021). DNP program overview. Retrieved from <https://nursejournal.org/degrees/dnp/>
- Kuensting, L., Beckerle, C., Murphy, N., Fish, A. F., & Vamndrmause, R. (2020). Web-based training modules for nurse practitioner preceptors. *Journal for Nurse Practitioners*, 16(8), e113-e115. <https://doi.org/10.1016/j.nurpra.2020.04.023>
- McNeil, B., & Jakubisin Konicki, A. (2021). Insights on the clinical teaching needs of nurse practitioner preceptors. *The Journal for Nurse Practitioners*, 17(1), 105-111. <https://doi.org/10.1016/j.nurpra.2020.10.032>
- National Task Force on Quality Nurse Practitioner Education. (2016). *Criteria for evaluation of nurse practitioner programs*. (5th ed.). Retrieved from: <https://cdn.ymaws.com/www.nonpf.org/resource/resmgr/Docs/EvalCriteria2016Final.pdf>
- Office of Disease Prevention and Health Promotion. (2018). *Maternal, infant, and child health*. U.S. Department of Health and Human Services. <https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>
- Pitcher, D. (2016). Evaluating a program for preparing nurse practitioner Preceptors/Mentors. *Journal of Doctoral Nursing Practice*, 9(1), 158-163. <https://doi.org/10.1891/2380-9418.9.1.158>
- Roberts, M. E., Wheeler, K. J., Tyler, D. O., & Padden, D. L. (2017). Precepting nurse practitioner students: A new view. Results of two national surveys of nurse practitioner preceptors. *Journal*

of the American Association of Nurse Practitioners, 29(8), 484-

491. <https://doi.org/10.1002/2327-6924.12482>

Schumacher, G., & Risco, K. (2017). Competency-based nurse practitioner education: An overview for the preceptor. *The Journal for Nurse Practitioners*, 13(9), 596-602.

doi:<http://dx.doi.org/10.1016/j.nurpra.2017.07.020>

United States Bureau of Labor Statistics. (2019). Nurse practitioners. Retrieved from

<https://www.bls.gov/oes/2018/may/oes291171.htm#nat>

Wilkinson, M., Turner, B. S., Ellis, K. K., Knestrick, J., & Bondmass, M. (2015). Online clinical education training for preceptors: A pilot QI project. *The Journal for Nurse Practitioners*, 11(7),

e43-e50. doi:10.1016/j.nurpra.2015.04.017

Appendix A
DNP Essentials Assessment

DNP Essential	Competency/Description	Demonstration of Mastery
Essential I <i>Scientific Underpinning for Practice</i>	<p>Competency – Analyzes and uses information to develop practice</p> <p>Competency -Integrates knowledge from humanities and science into context of nursing</p> <p>Competency -Translates research to improve practice</p> <p>Competency -Integrates research, theory, and practice to develop new approaches toward improved practice and outcomes</p>	<p>Conducted literature review to baseline of existing knowledge for DNP project.</p> <p>Information gleaned from literature review was utilized to design and implement DNP project.</p>
Essential II <i>Organizational & Systems Leadership for Quality Improvement & Systems Thinking</i>	<p>Competency –Develops and evaluates practice based on science and integrates policy and humanities</p> <p>Competency –Assumes and ensures accountability for quality care and patient safety</p> <p>Competency -Demonstrates critical and reflective thinking</p> <p>Competency -Advocates for improved quality, access, and cost of health care; monitors costs and budgets</p> <p>Competency -Develops and implements innovations incorporating principles of change</p> <p>Competency - Effectively communicates practice knowledge in writing and orally to improve quality</p> <p>Competency - Develops and evaluates strategies to manage ethical dilemmas in patient care and within health care delivery systems</p>	<p>DNP project was based on creating a training program for clinical preceptors, which represented a change in current practice for the project site</p> <p>Communicated frequently with DNP project team via email and telephone meetings.</p> <p>Adapted project for entirely remote delivery method in presence of global pandemic and based on delivery preferences indicated in literature review.</p>
Essential III <i>Clinical Scholarship & Analytical Methods for Evidence-Based Practice</i>	<p>Competency - Critically analyzes literature to determine best practices</p> <p>Competency - Implements evaluation processes to measure process and patient outcomes</p> <p>Competency - Designs and implements quality improvement strategies to promote safety, efficiency, and equitable quality care for patients</p> <p>Competency - Applies knowledge to develop practice guidelines</p> <p>Competency - Uses informatics to identify, analyze, and predict best practice and patient outcomes</p> <p>Competency - Collaborate in research and disseminate findings</p>	<p>DNP project was QI in nature as it sought to improve existing training practices for clinical preceptors at the project site</p> <p>Utilized statistical analysis to interpret data from survey responses</p>
Essential IV <i>Information Systems – Technology & Patient Care Technology for the Improvement & Transformation of Health Care</i>	<p>Competency - Design/select and utilize software to analyze practice and consumer information systems that can improve the delivery & quality of care</p> <p>Competency - Analyze and operationalize patient care technologies</p> <p>Competency - Evaluate technology regarding ethics, efficiency and accuracy</p> <p>Competency - Evaluates systems of care using health information technologies</p>	<p>Utilized online freeware for development and delivery of training module</p> <p>Utilized survey and spreadsheet software distribute surveys and analyze project data</p>

<p>Essential V</p> <p><i>Health Care Policy of Advocacy in Health Care</i></p>	<p>Competency- Analyzes health policy from the perspective of patients, nursing and other stakeholders</p> <p>Competency – Provides leadership in developing and implementing health policy</p> <p>Competency –Influences policymakers, formally and informally, in local and global settings</p> <p>Competency – Educates stakeholders regarding policy</p> <p>Competency – Advocates for nursing within the policy arena</p> <p>Competency- Participates in policy agendas that assist with finance, regulation and health care delivery</p> <p>Competency – Advocates for equitable and ethical health care</p>	<p>Provided cost effective training for future use by the project site</p> <p>Continuing education accreditation avenues were assessed for the most cost-effective option</p>
<p>Essential VI</p> <p><i>Interprofessional Collaboration for Improving Patient & Population Health Outcomes</i></p>	<p>Competency- Uses effective collaboration and communication to develop and implement practice, policy, standards of care, and scholarship</p> <p>Competency – Provide leadership to interprofessional care teams</p> <p>Competency – Consult intraprofessionally and interprofessionally to develop systems of care in complex settings</p>	<p>Collaborated with university information technology department to assess module delivery options</p> <p>Collaborated with project team and nursing faculty to optimize outcomes for project site and ensure appropriate planning</p>
<p>Essential VII</p> <p><i>Clinical Prevention & Population Health for Improving the Nation’s Health</i></p>	<p>Competency- Integrates epidemiology, biostatistics, and data to facilitate individual and population health care delivery</p> <p>Competency – Synthesizes information & cultural competency to develop & use health promotion/disease prevention strategies to address gaps in care</p> <p>Competency – Evaluates and implements change strategies of models of health care delivery to improve quality and address diversity</p>	<p>Analysis of existing literature and evaluation of project data were utilized to recommend areas for future study and sustainability implications</p> <p>Utilized PDSA model to adapt to changes throughout development, implementation, and evaluation of the DNP project</p>
<p>Essential VIII</p> <p><i>Advanced Nursing Practice</i></p>	<p>Competency- Melds diversity & cultural sensitivity to conduct systematic assessment of health parameters in varied settings</p> <p>Competency – Design, implement & evaluate nursing interventions to promote quality</p> <p>Competency – Develop & maintain patient relationships</p> <p>Competency –Demonstrate advanced clinical judgment and systematic thoughts to improve patient outcomes</p> <p>Competency – Mentor and support fellow nurses</p> <p>Competency- Provide support for individuals and systems experiencing change and transitions</p> <p>Competency –Use systems analysis to evaluate practice efficiency, care delivery, fiscal responsibility, ethical responsibility, and quality outcomes measures</p>	<p>Collaborated with DNP student colleagues via DNP immersion and peer review</p> <p>DNP project carries potential to improve care at an academic, professional nursing, and patient centric level</p>

**Appendix B
Project Budget**

Project Component	Cost
Software	
Module Development/Distribution: Freeware	\$0
Survey Software: Qualtrics (including in tuition cost)	\$0
Microsoft Office: Access included in tuition	\$0
Travel	
Project developed and implemented remotely	\$0
Additional Fees	
Continuing Education Accreditation Application Fee	\$150
Total Cost of Project	\$150

Appendix C
Abbreviated Literature Matrix

Author(s)	Year	Journal	Title	Purpose/Central Message
Amirehsani, Kennedy-Malone, & Alam	2019	Supporting preceptors and strengthening academic-practice partnerships	<i>Journal for Nurse Practitioners</i>	This pilot study surveyed preceptors who work with NP students to gain a better understanding of what motivates primary care providers to precept NP students, identify strategies to recruit and support preceptors, and enhance professional growth and strengthen academic-practice partnerships between preceptors and educational institutions. Top incentives included: access to free CE programs, financial compensation, formal preceptor training, library access. Preceptors appreciate recognition and convenience—web-based and telephonic meetings were the norm and were preferred. Barriers to precepting included feeling unprepared for the preceptor role
Billay, Myrick, & Yonge	2015	Preceptorship and the nurse practitioner student: Navigating the liminal space	<i>Journal of Nurse Education</i>	Qualitative Descriptive Study To explore the process occurring in preceptorship to prepare nurse practitioner students for their future role in professional practice. The researchers examined this process through the eyes of the preceptors, nurse practitioner students, and faculty. Clear communication was a central theme

<p>Chen, Rivera, Rotter, Green & Kools</p>	<p>2016</p>	<p>Interprofessional education in the clinical setting: A qualitative look at the preceptor's perspective in training advanced practice nursing students.</p>	<p><i>Nurse Education in Practice</i></p>	<p>To understand the differences in how preceptors precept trainees from different professions and whether they utilize any other skills or teaching methods. Preceptor knowledge gaps necessitate formal training for clinical preceptors who precept NP students especially, when interdisciplinary approach is implemented (i.e. MD training an NP). Varied teaching approaches are necessary to promote engagement. A lack of knowledge and familiarity with the role, scope of practice, and learning objectives for trainees from different professions fundamentally impacted preceptor abilities.</p>
<p>Clark, Kent, & Reisner</p>	<p>2018</p>	<p>A new approach for solving an old problem in nurse practitioner clinical education</p>	<p><i>Journal for Nurse Practitioners</i></p>	<p>NP program report on strategies to promote learning, they: implemented a dyad model (1 preceptor to 2 NP students), partnered with providers in the community to identify clinical needs, and conducted a formal preceptor orientation. Additionally, each preceptor/faculty was given official adjunct faculty status with all the university-associated benefits this position allowed (ie, library access, personalized school laboratory coats, and support by full-time school faculty. The program is in the process of creating a preceptor manual for future use.</p>

Heusinkvelt, S. E., & Tracy, M.	2020	Improving nurse practitioner and physician assistant preceptor knowledge, self-efficacy, and willingness in a hospital medicine practice: An online experience.	<i>The Journal of Continuing Education in Nursing</i>	To determine if an online preceptor orientation could enhance experiences for NP and PA preceptors. Findings: "An online NP and PA preceptor training program increased preceptor knowledge, self-efficacy, and willingness to serve as a preceptor. Additional research is needed to explore the time constraints to serving as an NP or a PA preceptor in the inpatient environment." 50% reported preference for online format for training.
Knisely, Fulton, & Friesth	2015	Perceived importance of teaching characteristics in clinical nurse specialist preceptors. Student and preceptor perceptions of important qualities	<i>Journal of Professional Nursing</i>	To explore and compare clinical nurse specialist student and preceptor perceptions of the importance of clinical teaching characteristics in CNS preceptors. Preceptor behaviors and teaching skills can significantly impact student learning. Clinical judgement, being positive role model, and communication ability ranked highest among preceptors and NP students as positive qualities of clinical preceptor.
Kuensting, Beckerle, Murphy, Fish, Vamndrmause	2020	Web-based training modules for nurse practitioner preceptors	<i>Journal for Nurse Practitioners</i>	Web-based orientation modules are an effective tool for NP clinical preceptors training. The use of technology should be considered when educating NP preceptors, especially in distance-mediated programs.

McNeil & Jakubisin Konicki	2021	Insights on the clinical teaching needs of nurse practitioner preceptors	<i>Journal for Nurse Practitioners</i>	Communication is essential as unclear expectations are a source of frustration. Many preceptors would like training but may not be able to attend re: time constraints. Web-based, asynchronous training is preferred.
Pitcher	2016	Evaluating a program for preparing nurse practitioner Preceptors/Mentors	<i>Journal of Doctoral Nursing Practice</i>	A training program for NP preceptors/mentors was developed to enhance the NP's knowledge of the 6 common qualities shown to enhance preceptor effectiveness. Providing a formal NP preceptor program provides a framework to ensure quality precepting/mentoring of all NP students. Ultimately, this will increase the quality of education between the mentor and student to prepare them for their future job. Participants acknowledged that this program should be a requirement of all preceptor/mentors prior to any interaction with students.
Roberts, Wheeler, Tyler & Padden	2017	Precepting nurse practitioner students: A new view—Results of two national surveys of nurse practitioner preceptors	<i>Journal of the American Association of Nurse Practitioners</i>	The 2015 survey aimed to identify characteristics of NPs who precept and identify incentives/benefits to support the preceptor role. The 2016 survey was a follow-up effort to further clarify barriers and solutions. Most preceptors cited a need for preceptor training, communication about the curriculum and clear communication about course objectives. Preceptors also wanted more communication from programs and faculty.

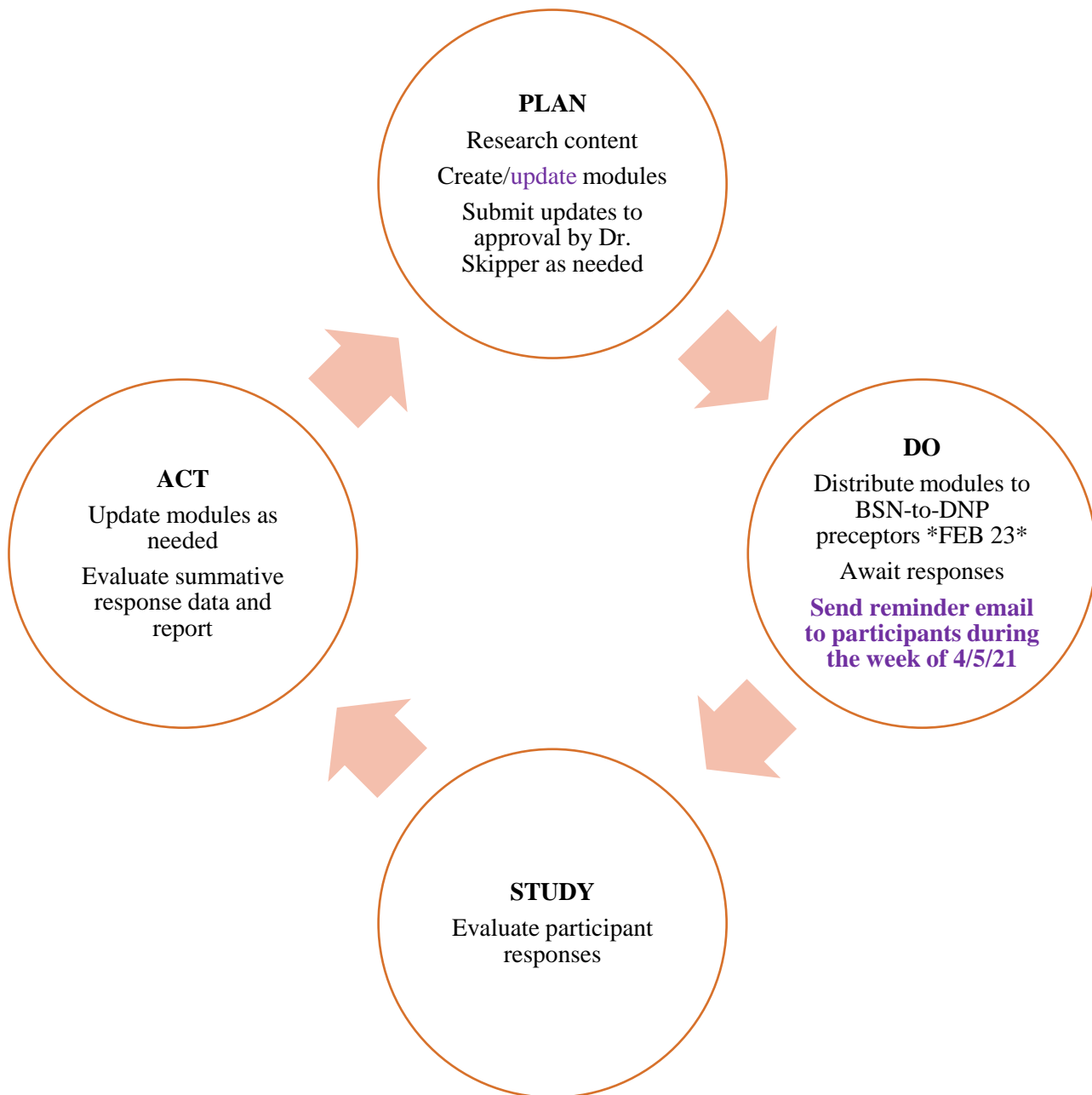
<p>Schumacher & Risco</p>	<p>2017</p>	<p>Competency-Based Nurse Practitioner Education: An Overview for the Preceptor</p>	<p><i>Journal for Nurse Practitioners</i></p>	<p>The purpose of this article is address NP preceptor preparation in the context of a competency-based curriculum. Preceptors should be familiar with a student's program prior to agreeing to precept. Preparation for preceptor's includes orienting the preceptor to course competencies, standards for academic achievements, and providing a communication channel between preceptors and academic institutions.</p>
<p>Wilkinson, Turner, Ellis, Knestrick & Bondmass</p>	<p>2015</p>	<p>Online clinical education training for preceptors: A pilot QI project.</p>	<p><i>Journal for Nurse Practitioners</i></p>	<p>QI project; to implement online education to improve preceptors' knowledge, skill, and comfort related to clinical teaching. Increased preceptor knowledge and high levels of satisfaction suggest that online education for preceptors may be an effective approach to formal preceptor education. High levels of preceptor satisfaction with the online format support the need to further investigate means to engage preceptors through online modalities. 94.7% indicating that university-sponsored CE increases their willingness to precept.</p>

Appendix D
PDSA Models

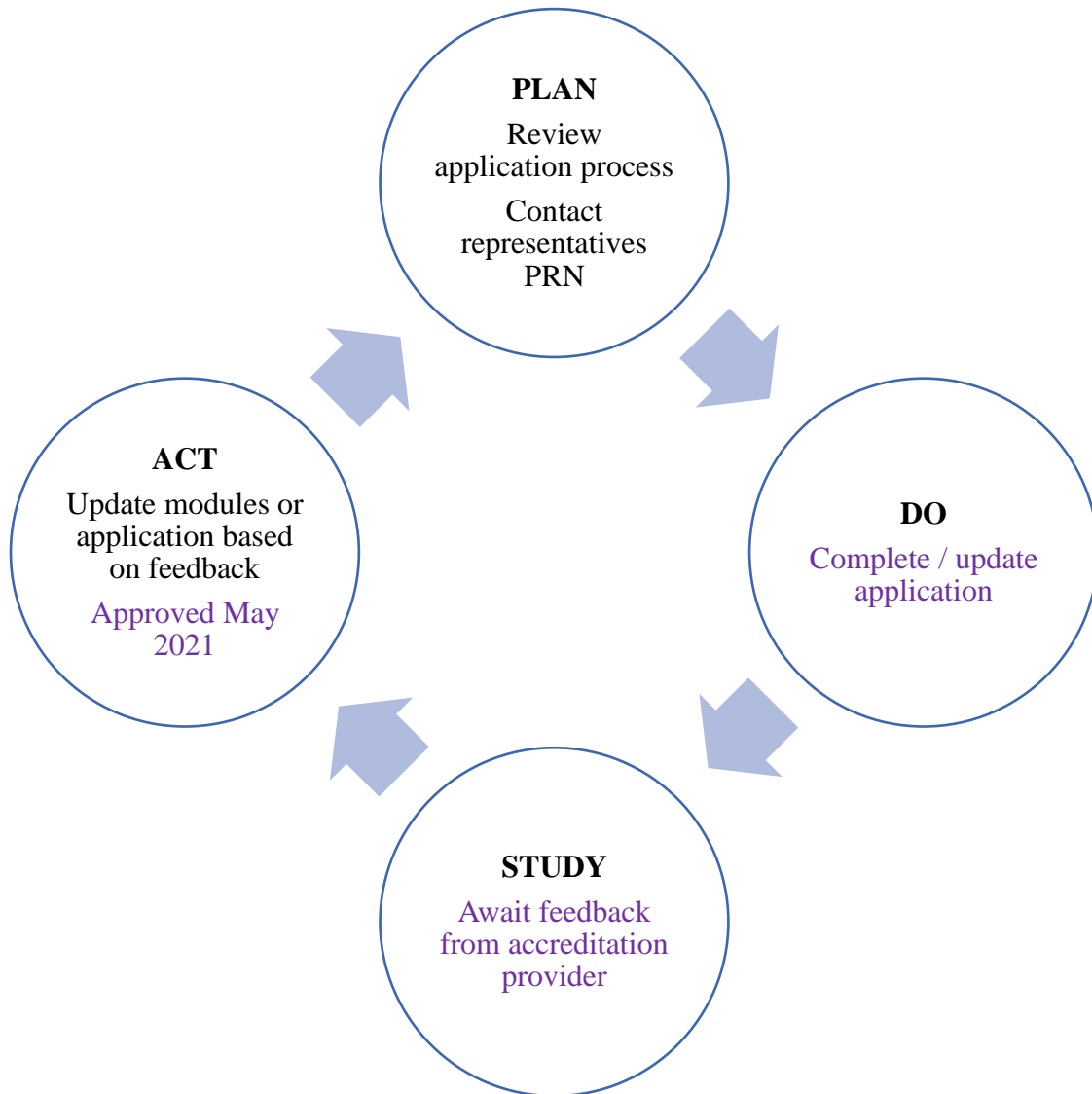
PDSA for Module Creation → Distribution → Evaluation

Implementaion Period 1: Feb 23-March 5

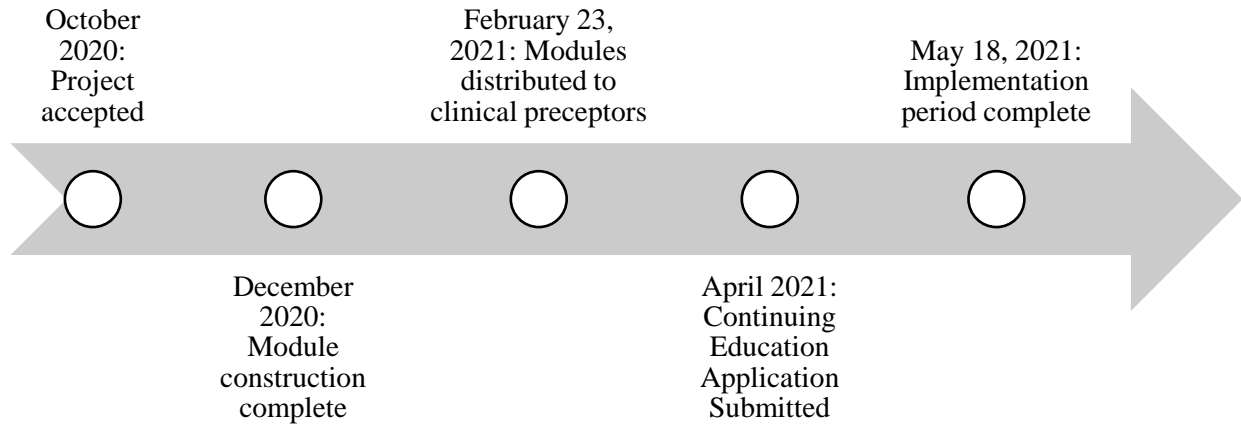
Implementaion Period 2: March 6-May 18



PDSA for Continuing Education Accreditation Application
Implementation Period: Feb 23-March 5, 2021
Implementation Period: March 6-May 18, 2021



**Appendix E
Project Timeline**



On-going Tasks:
Feb 23 – May 18: Daily weekday (Mon-Fri) review of survey responses
Weekly contact/check-in with site champion via phone/email